

Remarks

Reconsideration of this Application is respectfully requested. Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-5, 8, 9, 11-15, 18, 19, 21-25, 28, and 29 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 5,968,167 to Whittaker et al. (“Whittaker”). Applicant respectfully traverses this rejection.

Independent claim 1 recites, *inter alia*, “at least two resource units ... wherein each of the resource units is configured to implement only a subset of instruction types of an instruction set.” The Examiner compares the resource units of the present application to the plurality of data processing units and the multi-bank cache of Whittaker, stating that “an appropriate data processing unit and a particular cache bank will be instructed and identified by the media control core to perform only video input/real-time data processing, which is a subset of instruction types; the instruction set can comprise video as well as audio.” (Office Action, p. 3).

The function of the data processing units of Whittaker is to process a sequence of instructions from its own microinstruction memory in order to manipulate data from a cache bank. (Whittaker, col. 4, ll. 25-44). The Examiner appears to argue that this sequence of microinstructions when used to, for example, process only video and not audio, results in the *implementation* of only a subset of instruction types of an instruction set. (Office Action, p. 3). However, there is nothing in Whittaker to suggest that the

data processing units implement only a subset of instruction types, but merely that under typical operation, a data processing unit with video processing microinstructions stored in memory will only utilize a subset of instruction types. In fact, Whittaker states that the data processing core and media pipeline “could be formed from any type of general processor.” (Whittaker, col. 6, ll. 45-49). Accordingly, the data processing units of Whittaker actually *implement* a complete instruction set, regardless of how much of it is utilized during processing by an individual data processing unit.

Assuming, *arguendo*, that the data processing units of Whittaker correspond to the resource units of independent claim 1, Whittaker nevertheless does not disclose “at least one of the threads requesting use of one of the resource units for processing a current instruction,” as further recited in independent claim 1. If each data processing unit of Whittaker is configured to perform only one of, for example, “process[ing] audio, 3D, 2D, video scaling, video decoding, etc.,” then Whittaker does not disclose requesting use of resource units for processing a current *instruction*; rather Whittaker discloses requesting the use of resource units for processing a task. (Whittaker, col. 6, ll. 42-45; col. 8, ll. 7-8). Notably, in Whittaker, the entire thread is assigned to a data path control pipeline, rather than an individual instruction. (Whittaker, col. 8, ll. 2-8).

For the aforementioned reasons, Whittaker does not disclose each and every feature of independent claim 1. Independent claim 1 is therefore patentable over Whittaker. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Independent claims 11 and 21 have been rejected for similar reasons as independent claim 1. Claims 11 and 21 recite “each of the resource units implements

only a subset of instruction types of an instruction set” and “each of the resource units is configured to implement only a subset of instruction types of an instruction set,” respectively, as well as “at least one of the threads requesting use of one of at least two resource units capable of being assigned to an instruction of each of the threads for processing a current instruction” and “at least one of the threads requesting use of one of the resource units for processing a current instruction,” respectively. Claims 11 and 21 are therefore not anticipated by Whittaker for similar reasons as independent claim 1. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Claims 2-5, 8, and 9 are also not anticipated by Whittaker for similar reasons as independent claim 1 from which they depend, and further in view of their own respective features. Claims 12-15, 18, and 19 are not anticipated by Whittaker for similar reasons as independent claim 11 from which they depend, and further in view of their own respective features. Claims 22-25, 28, and 29 are not anticipated by Whittaker for similar reasons as independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 6, 7, 10, 16, 17, 20, 26, 27, and 30 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Whittaker in view of U.S. Patent No. 5,752,031 to Cutler et al. (“Cutler”). Applicant respectfully traverses this rejection.

Cutler does not cure the deficiencies of Whittaker relative to independent claim 1. Accordingly, claims 6, 7, and 10 are patentable over the combination of Cutler and

Whittaker for at least the reasons advanced with regard to independent claim 1 from which they depend, and further in view of their own respective features. Similarly, Cutler does not cure the deficiencies of Whittaker relative to independent claims 11 and 21. Accordingly, claims 16, 17, and 20 are patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 11 from which they depend, and further in view of their own respective features. Additionally, claims 26, 27, and 30 are also patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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